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A MESSAGE PROCESSING SYSTEM

Field of the Invention

The present invention relates to a message handling process and a message processing system, which may be used to deal with unsolicited and unapproved electronic messages.

Background of the Invention

Electronic messaging, particularly the use of e-mail over the Internet, has been enthusiastically adopted by large numbers of people, who have taken advantage of the inherent efficiencies and convenience of electronic messaging. One unfortunate consequence of Internet e-mail however has been the proliferation of unsolicited and unwanted e-mail messages, often referred to as "spam", which people receive. Various methods have been developed to restrict or prevent spam from reaching intended recipients. The methods have included both technical and legal measures which to date have met with mixed results. None have eliminated the problem of spam, nor prevented "spammers" from sending their messages and seeking to subvert the measures.

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One of the technical measures includes applying a spam filter which processes an incoming message to determine whether it should be forwarded to the recipient or not. The disadvantage associated with such filters is that inevitably useful messages for the recipient are inadvertently filtered and never received.

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It is desired to provide a method and system which provides a useful alternative or which allows management of unsolicited messages without seeking to simply restrict or filter incoming messages.

Summary of Certain Inventive Aspects

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The present invention relates to a message handling process, including:
determining if a message is approved for the recipient of the message;
processing the message for subsequent viewing by the recipient if the message is approved; and
notifying the recipient and storing the message if the message is unapproved.

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The present invention also provides a message processing system, including:

- means for determining if a message is approved for the recipient of the message;
- means for processing the message for subsequent viewing by the recipient if the message is approved; and
- 5 means for notifying the recipient and storing the message if the message is unapproved.

The present invention also provides a message processing system, including:

- an electronic message server for receiving and storing electronic messages for a recipient; and
- 10 an electronic message manager for processing electronic messages for a recipient to determine if the electronic messages are approved based on stored criteria, sending approved electronic messages for the recipient to a location for access by the recipient, and storing and sending a notification to the recipient of unapproved messages.

Brief Description of the Drawings

15 A preferred embodiment of the present invention is hereinafter described, by way of example only, with reference to the accompanying drawings, wherein:

Figure 1 is a block diagram of a preferred embodiment of a message processing system connected to a communications network; and

20 Figure 2 is a flow diagram of the message handling process executed by the message processing system.

Detailed Description of Certain Inventive Embodiments

A message processing system 2, as shown in Figure 1, is provided by a computer which may be a Unix server. The system 2 includes standard web server software 8 and e-mail server software 12 so that the system 2 can operate as a web server and can also operate as an e-mail server, i.e. a standard POP3/SMTP/IMAP e-mail server. The system 2 also includes e-mail manager software 10 stored on the server which includes program code and database code that establishes a database on the server 2. The code of the manager 10 causes the system to execute the message handling steps described below. Although shown on one machine, it will be understood by those skilled in the art that software components 8, 10 and 12 of the system 2 can be distributed amongst a number of machines in different locations, provided the

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components 8, 10 and 12 can communicate with one another, as shown in Figure 1. Also it will be understood that the e-mail manager could be provided at least in part by application specific integrated circuits (ASICs) which execute the steps of the message handling process.

5 A user of the system 2 is able to access the system 2 via a communications network 4 using a standard computer 6 with a web browser. The communications network 4 may be, for example, the Internet or a LAN. For instance, the system 2 may be part of a corporate intranet, and act as a gateway for the intranet to the Internet. The system 2 may also be controlled by a service provider simply providing an e-mail service via the Internet. The service provider can
10 then service any users which can connect via the Internet, including the users of corporate networks. Users, including companies, which use the system are registered and identified as being users by the e-mail manager 10. All e-mails for the users are then directed to the system 2.

15 The message handling method executed by the system 2, and in particular the manager 10, is shown in Figure 2. For incoming e-mails received by the system 2 for the users, at step 14, the manager 10 determines, at step 16, whether the e-mail message is approved. Approval of an e-mail message can be based on a number of criteria, with the simplest being whether the sender of the message is on a list of approved senders for the intended recipient that is
20 stored on the database of the e-mail manager 10. If the message is approved at step 16, a forward procedure is executed and a determination is made at step 17 as to whether the recipient collects e-mail messages from the e-mail server 12 directly. If so, the message is stored on the server 12 at step 20 for retrieval from the e-mail server 12 in the normal manner. Otherwise the e-mail server 12 forwards the message to the recipient's e-mail server at step
25 22 via the communications network 4.

If it is determined at step 16 that the message is not approved, then the system 2 notifies the recipient, at step 18, that it has disallowed a received message for the recipient. The recipient can be notified by a number of communications methods, such as by e-mail or
30 by a telephone call over the network 4. On receipt of the notification at step 18, the recipient

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can direct their web browser to the web server 8 and view a list of disallowed messages. From the list, the user can execute a number of actions, such as read the message, select a sender of a message to be added to the approved list stored by the manager 10 or simply delete messages.

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At step 18, the sender of an e-mail that has been disallowed by the system 2 is notified by e-mail that their message has been held in a pending mailbox because they were not on the recipient's list of authorised e-mail senders. The sender is also informed by e-mail that if they wish to ensure that the recipient reads the e-mail, the sender should use other means, such as 10 telephone, to inform the recipient that they have been sent an e-mail and ask that the recipient add the sender's e-mail address to the recipient's list of authorised senders.

The manager 10 uses the e-mail server 12 to send the notifications at step 18 by e-mail, and the e-mail for the recipient includes a URL for the web server 8. A recipient can then 15 respond to the notification by selecting the URL and pointing the browser to the web server 8. The manager 10 determines at step 24, after a predetermined period of time, whether or not the recipient has ignored the notification sent by e-mail. If the notification is ignored, the system 2 sends a return e-mail, at step 26, notifying the sender that the sent message has not been the read by the recipient. The message is then deleted at step 30.

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If the recipient responds to the e-mail notification so as to direct the recipient's browser to the system 2, the browser communicates with the web server 8 which sends a web page, designated by the URL. The web page displays a list of messages not approved by the manager 10 with the recently sent message being highlighted or selected. The e-mail manager 10 then 25 enters a loop 50 which allows a number of functions to be executed. At step 28 the manager 10 determines whether the recipient has selected on the web page an option to add the sender of the highlighted message to the approved list maintained by the manager 10. If not, operation of the manager 10 proceeds to step 32, otherwise the manager 10 will update the recipient's approved list to add the sender, at step 34, and then proceed to step 32. At step 32, the e-mail 30 manager 10 determines whether the recipient has chosen an option on the web page to read the

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highlighted message, and if not, operation proceeds to step 31. Otherwise, the message is displayed at step 36 for the recipient's browser, and operation proceeds to step 31. At step 31, the manager determines whether the recipient has selected an option on the web page to save the highlighted or read message, and if so, operation proceeds to step 33 to save the message.

- 5 At step 33, the forward procedure is called to execute step 17 for the message and proceed to either step 20 or 22 to save the message and then return to the loop 50. At step 35, the manager 10 determines whether the recipient has selected an option to delete the highlighted or read message. If so, the message is deleted at step 37, and operation returns to the loop 50. At step 39, a determination is made, based on activity of the recipient, as to whether the recipient has directed its browser away from or closed the web page, and if so, the loop 50 is exited and operation ends at step 40.
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The manager 10 also executes scheduled tasks 42 to delete unapproved messages on which no action has been taken by recipients for a predetermined period of time, and notify senders as in step 26. Alternatively, the scheduled tasks may be set for a recipient so that unapproved messages on which no action has been taken for a predetermined period of time are stored or saved automatically by calling the forward procedure to execute step 17 and proceed to either step 20 or 22.

- 20 The above system 2 and management method are particularly advantageous as they provide users with the capability to manage unsolicited or unapproved e-mail messages without having the messages inadvertently removed by a message filter. The management facilities provided by the system 2 are web browser based, and provides significant additional management services to users of browser based e-mail services, such as those provided by
- 25 Hotmail and Yahoo.

Many modifications will be apparent to those skilled in the art without departing from the scope of the present invention as herein described with reference to the accompanying drawings.